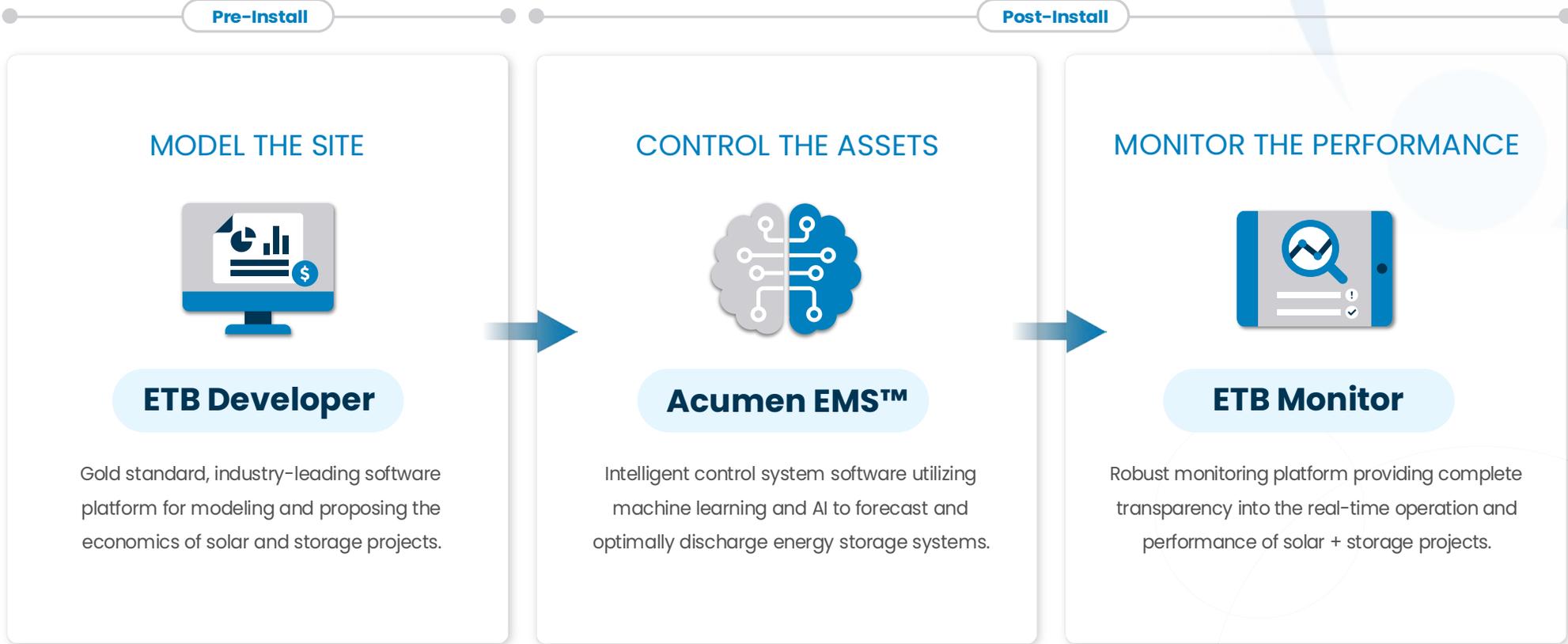




From Project Conception through End of Life

Our team and suite of products takes you through every step of your project's lifecycle





MODEL

ETB DEVELOPER

Accurate, Objective, Transparent

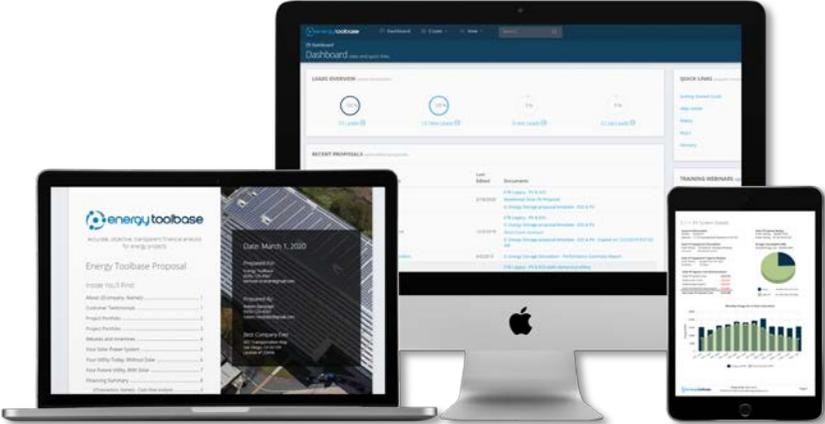
ETB Developer is the gold standard for utility rate and financial analysis of solar + storage projects. Streamline your sales process and create professional proposals.

- ✓ Precise financial analysis
- ✓ Create customer proposals in minutes
- ✓ Always up to date utility rates, in-house rates team
- ✓ Best-in-class support and customer service



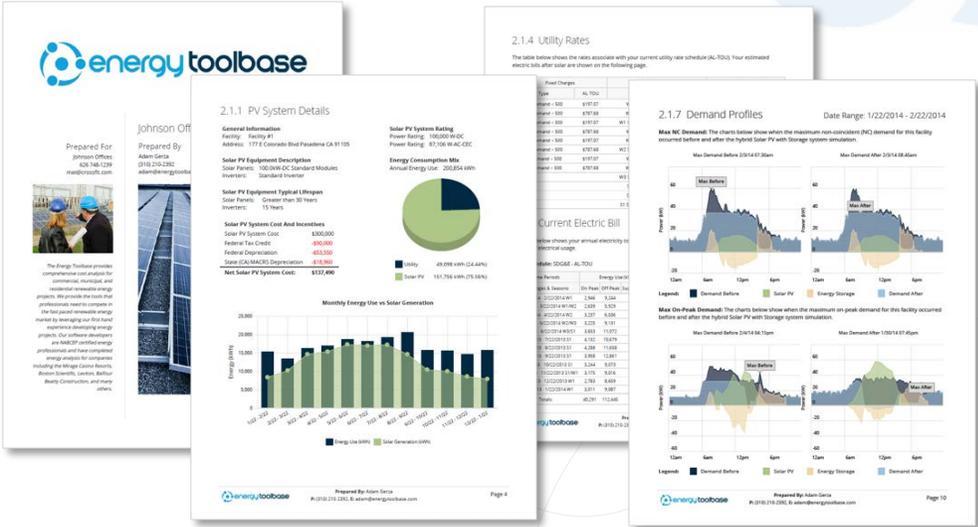
Energy Toolbase Project Modeling and Proposals

- Used by 3,000+ energy professionals worldwide
- 100,000 active, global utility rates in database
- Custom, white-labeled proposals
- **Best in class customer service**



100,000+
Proposals built that include storage (trending at 5,000 per quarter increase)

5,000+
Proposals built each week





CONTROL
ACUMEN EMS™

Agnostic, Flexible, Reliable

Acumen EMS™ (energy management system) controls software utilizes AI and machine learning to forecast and optimally discharge energy storage systems operating in the field.

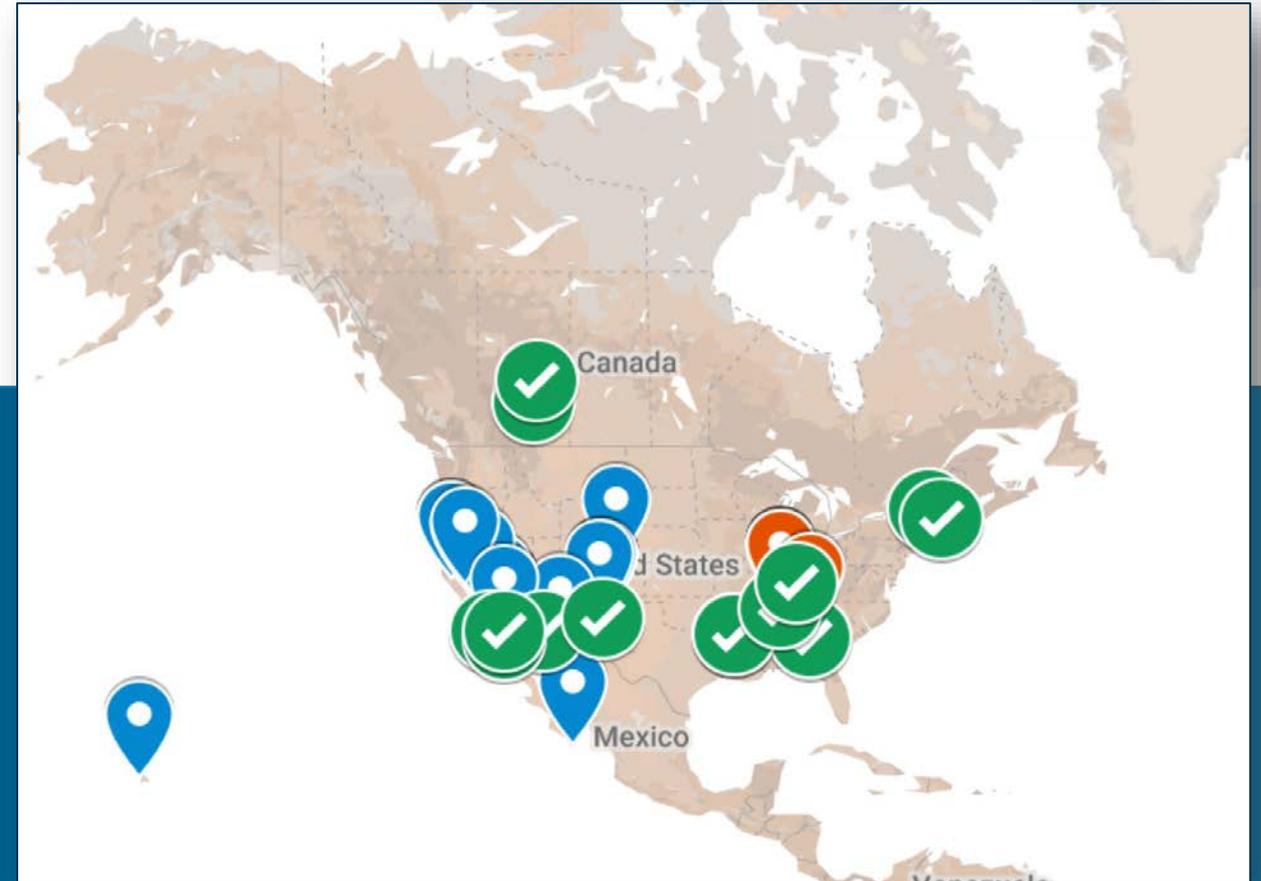
- ✓ Optimize multiple value streams
- ✓ Consumes real-time data to re-forecast every 15 minutes
- ✓ Hardware agnostic, interoperable with any vendor or size
- ✓ Warranty and incentive program-compliant operation



90+ Megawatt Hours (MWh) Commissioned & Contracted Using Acumen EMS™ Controls Software

Energy Toolbase + Acumen EMS™ has active deployments across the United States and internationally

- 95+ sites across 4 countries
- 16+ states with live projects
- Front of the meter & behind-the-meter projects





MONITOR

ETB MONITOR

Measure, Diagnose, Resolve

Robust monitoring software providing real-time insights into the operational performance and savings of your solar + storage systems.

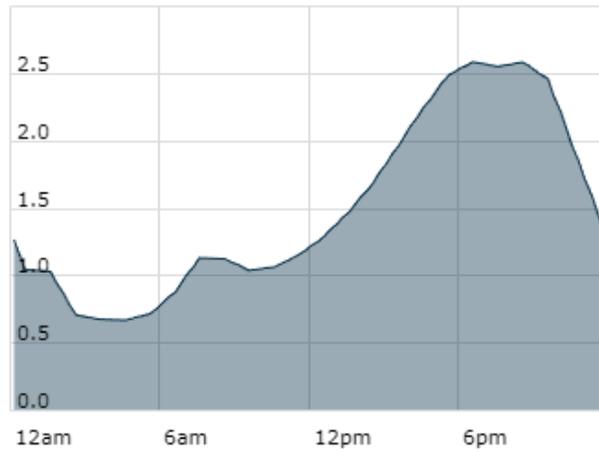
- ✓ Measure & verify dollar savings
- ✓ Real-time system performance
- ✓ Cloud-based, accessible from any device
- ✓ Compliance reporting



Most important issues from the NEM-3 “Net Billing” final decision

- **Good news: no solar tax, no changes to NEM-1 or NEM-2**
- **“Net Billing” tariff establishes hourly export values**
 - Derived from the ACC (Avoided Cost Calculator)
 - ACC export values lock in for 9-years
 - Solar credits can be applied to any TOU period
- **Residential customers**
 - Mandatory Electrification Rates
 - ACC Plus Adder > small glidepath for PG&E and SCE customers
- **Other issues**
 - NBCs
 - Annual True-up / monthly billing
 - Instantaneous netting
 - NEMA/VNEM

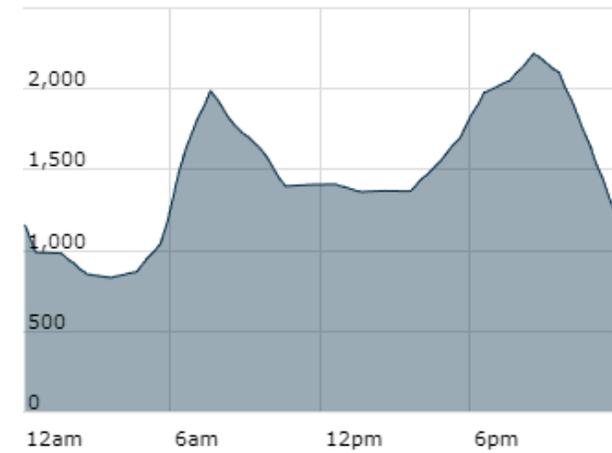
Residential Client



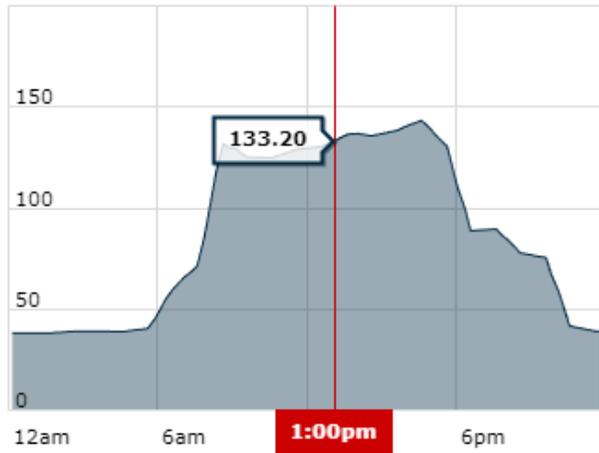
Residential EV Customer



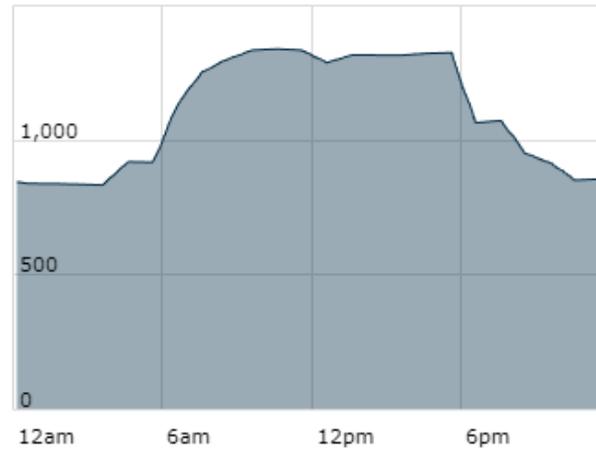
Hotel



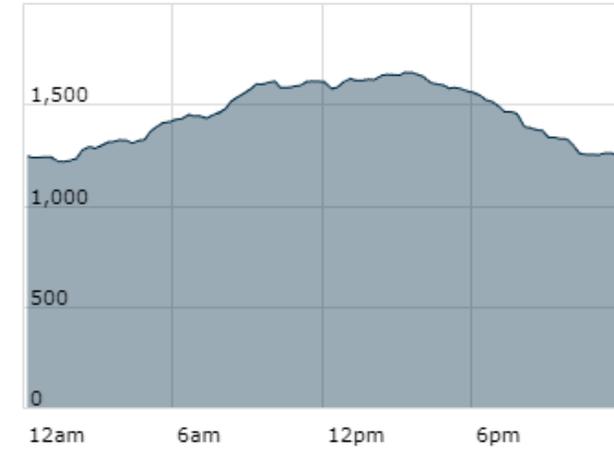
Office



Medical Building



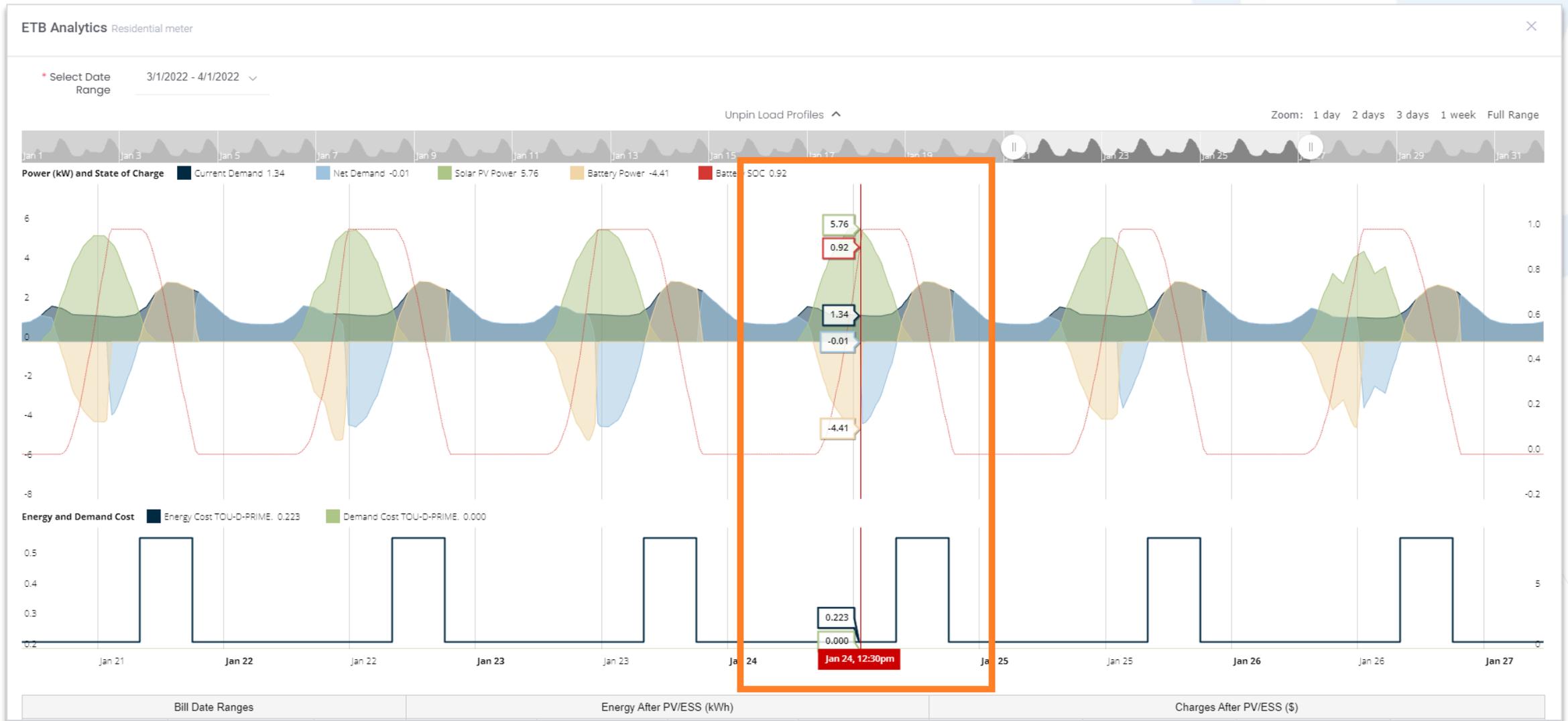
Car Dealership



The amount of solar 'exports' and the 'Value of PV (\$/kWh)' are dependent on the load profile (interval meter data) of your customer and PV system design



Our Demand Profile Visualization view shows the battery operating in self-consumption mode, and how much PV and ESS capacity there is.



Hourly export rates (\$/kWh) are based on the Avoided Cost Calculator (ACC)

		2023 Weekday Base Export Compensation (no adders)											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Hour of Day	1	0.053	0.056	0.049	0.047	0.050	0.049	0.051	0.054	0.053	0.050	0.054	0.051
	2	0.053	0.056	0.049	0.048	0.052	0.050	0.052	0.053	0.052	0.051	0.057	0.050
	3	0.051	0.056	0.050	0.047	0.051	0.051	0.050	0.053	0.051	0.050	0.054	0.049
	4	0.051	0.055	0.050	0.048	0.051	0.052	0.050	0.052	0.051	0.050	0.053	0.049
	5	0.051	0.056	0.051	0.049	0.055	0.050	0.051	0.053	0.050	0.050	0.054	0.048
	6	0.053	0.057	0.052	0.050	0.053	0.052	0.053	0.053	0.052	0.051	0.056	0.051
	7	0.056	0.058	0.053	0.040	0.036	0.052	0.054	0.055	0.053	0.052	0.058	0.056
	8	0.057	0.060	0.048	0.014	0.018	0.045	0.050	0.056	0.048	0.051	0.061	0.061
	9	0.055	0.048	0.032	0.009	0.007	0.038	0.050	0.055	0.039	0.043	0.048	0.055
	10	0.048	0.031	0.020	0.011	0.011	0.037	0.050	0.055	0.040	0.043	0.046	0.048
	11	0.046	0.026	0.018	0.008	0.012	0.039	0.050	0.055	0.040	0.043	0.041	0.045
	12	0.046	0.028	0.018	0.004	0.009	0.039	0.050	0.055	0.040	0.043	0.037	0.042
	13	0.045	0.027	0.018	0.002	0.008	0.041	0.049	0.056	0.042	0.044	0.038	0.042
	14	0.044	0.028	0.018	0.001	0.008	0.088	0.051	0.060	0.045	0.047	0.039	0.043
	15	0.046	0.029	0.021	0.001	0.009	0.143	0.060	0.117	0.057	0.099	0.042	0.046
	16	0.052	0.041	0.032	0.006	0.019	0.207	0.075	0.133	0.116	0.120	0.069	0.059
	17	0.061	0.062	0.051	0.024	0.038	0.225	0.213	0.315	0.135	0.167	0.067	0.063
	18	0.063	0.062	0.063	0.064	0.068	0.285	0.227	0.499	2.372	0.126	0.070	0.067
	19	0.066	0.064	0.073	0.072	0.074	0.251	0.226	0.727	2.680	0.126	0.071	0.069
	20	0.065	0.064	0.075	0.090	0.088	0.195	0.134	0.340	0.202	0.072	0.068	0.069
	21	0.062	0.063	0.067	0.068	0.076	0.088	0.092	0.281	0.089	0.066	0.065	0.067
	22	0.059	0.061	0.059	0.060	0.062	0.074	0.083	0.192	0.081	0.059	0.062	0.065
	23	0.056	0.059	0.052	0.056	0.057	0.058	0.055	0.061	0.061	0.054	0.060	0.057
	24	0.055	0.058	0.051	0.052	0.055	0.054	0.054	0.060	0.061	0.056	0.057	0.055

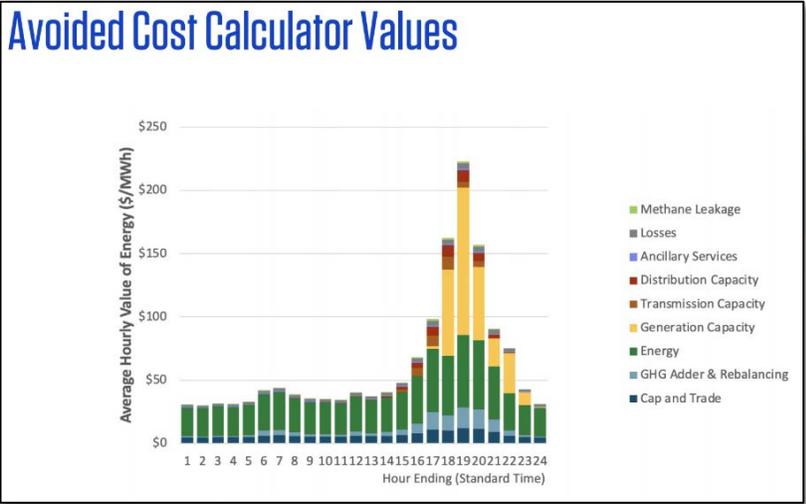


Table: PG&E weekday, 2023 ACC hourly values

The average blended value of exports in the SCE, TOU-D-PRIME case study is \$0.038/kWh

Energy Export After PV/ESS (kWh)			
On Peak	Mid Peak	Off Peak	Super Off Peak
-	0	0	492
-	2	0	524
-	45	1	738
-	55	0	832
-	58	1	866
32	10	814	-
41	19	835	-
36	14	836	-
14	6	650	-
-	11	0	623
-	1	1	511
-	0	0	444
123	221	3,138	5,030

		2023 Weekday Base Export Compensation (no adders)											
		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Hour of Day	1	0.053	0.057	0.049	0.047	0.050	0.050	0.053	0.054	0.053	0.050	0.054	0.052
	2	0.053	0.057	0.049	0.048	0.052	0.051	0.053	0.054	0.053	0.051	0.055	0.051
	3	0.052	0.056	0.050	0.047	0.051	0.052	0.051	0.053	0.052	0.050	0.054	0.049
	4	0.051	0.056	0.050	0.048	0.051	0.052	0.051	0.053	0.051	0.050	0.053	0.049
	5	0.051	0.057	0.051	0.049	0.055	0.051	0.051	0.053	0.051	0.050	0.054	0.049
	6	0.053	0.058	0.052	0.050	0.053	0.053	0.053	0.054	0.053	0.052	0.057	0.051
	7	0.056	0.058	0.053	0.040	0.037	0.053	0.055	0.056	0.054	0.053	0.059	0.056
	8	0.057	0.051	0.050	0.015	0.010	0.047	0.053	0.058	0.050	0.053	0.053	0.053
	9	0.056	0.049	0.033	0.010	0.008	0.041	0.052	0.058	0.041	0.045	0.050	0.056
	10	0.048	0.032	0.022	0.013	0.012	0.041	0.052	0.058	0.043	0.045	0.049	0.049
	11	0.046	0.028	0.022	0.012	0.016	0.043	0.054	0.059	0.044	0.045	0.044	0.045
	12	0.047	0.030	0.023	0.007	0.014	0.043	0.054	0.059	0.044	0.045	0.041	0.043
	13	0.045	0.029	0.023	0.005	0.013	0.047	0.065	0.077	0.052	0.051	0.042	0.043
	14	0.045	0.030	0.023	0.005	0.011	0.068	0.081	0.124	0.066	0.054	0.044	0.043
	15	0.047	0.031	0.026	0.002	0.011	0.088	0.112	0.166	0.077	0.071	0.048	0.047
	16	0.055	0.042	0.033	0.000	0.021	0.115	0.150	0.277	0.303	0.302	0.072	0.053
	17	0.061	0.063	0.053	0.024	0.040	0.117	0.144	0.208	0.103	0.086	0.070	0.063
	18	0.063	0.062	0.064	0.064	0.068	0.106	0.138	0.277	2.285	0.088	0.071	0.067
	19	0.068	0.066	0.074	0.072	0.074	0.101	0.190	0.552	2.582	0.070	0.073	0.070
	20	0.067	0.067	0.076	0.091	0.089	0.092	0.131	0.247	0.196	0.065	0.070	0.072
	21	0.065	0.066	0.068	0.069	0.077	0.082	0.091	0.235	0.090	0.063	0.067	0.068
	22	0.061	0.063	0.059	0.059	0.061	0.074	0.088	0.190	0.082	0.058	0.063	0.066
	23	0.058	0.061	0.052	0.056	0.058	0.059	0.056	0.063	0.062	0.055	0.060	0.058
	24	0.055	0.059	0.051	0.052	0.056	0.055	0.055	0.060	0.061	0.057	0.057	0.055

Table: SCE weekday, 2023 ACC hourly values

96% of exports were “off-peak” or “super off-peak”

The savings and economics of a PV-only project for an SCE, TOU-D-PRIME residential customer erode considerably going from NEM-2 to NEM-3

	NEM-2	NEM-3
Bill Savings (yr 1)	\$3,634	\$2,101
Avg blended value of PV (\$/kWh)	\$0.252	\$0.146
Payback (yrs)	6.0	8.8
NPV (Net Present Value)	\$39,669	\$15,412
IRR (Internal Rate of Return)	16.4%	10.2%

Case study inputs/outputs:

- Usage 1,200/kWh/month, typical resi load profile
- PV was sized to offset 100% of annual consumption
- 59% of PV production exported to grid
- Annual weighted avg of exports was \$0.038/kWh

The economics of PV+ESS beat PV-only for the SCE, TOU-D-PRIME residential case study we ran

	NEM-3 (PV only)	NEM-3 (PV + ESS)
Bill Savings (yr 1)	\$2,101	\$3,911
Avg blended value of PV (\$/kWh)	\$0.146	\$0.146
Payback (yrs)	8.8	8.3
NPV (Net Present Value)	\$15,412	\$31,922
IRR (Internal Rate of Return)	10.2%	11.5%

Case study inputs/outputs:

- Assumed \$18k installed cost for 1 Tesla PW
- ESS bill savings yr 1 = \$1,810 (\$134/kWh ESS savings)
- ESS reduced PV exports 47%
- PV+ESS run: PV savings 54%, ESS savings 46%

Our upcoming “Utility Rate Inflation – Whitepaper” shows Residential rates have an average CAGR between 3.9% and 6.3% over the last 10 years.

Utility	Rate Tariff	last 2 years Avg % change	2014 - 2023 CAGR (10 yr)
SDG&E	DR/TOU-DR1	20.0%	6.3%
SCE	D/TOU-D	16.0%	5.3%
PG&E	E-1/E-TOU-C	12.5%	3.9%

*Preliminary data from our upcoming Whitepaper

This will be a great document to reference for your sales teams

The economics of a PV-only project erode for a PG&E, B-19 commercial customer going from NEM-2 to NEM-3

	NEM-2	NEM-3
Bill Savings (yr 1)	\$392,287	\$301,001
Avg blended value of PV (\$/kWh)	\$0.221	\$0.169
Payback (yrs)	4.8	6.1
NPV (Net Present Value)	\$1,864,122	\$1,076,997
IRR (Internal Rate of Return)	16.5%	12.2%

Case study inputs/outputs:

- PV sized to offset 100% of annual consumption
- 46% of PV production exported to grid
- 1.12 MW PV system, priced at \$2.75/w installed
- Incentives assumed: 30% ITC, Fed MACRS and CA MACRS depreciation

The economics of PV+ESS are close to PV-only for the PG&E, B-19 commercial office building customer

	NEM-3 (PV only)	NEM-3 (PV + ESS)
Bill Savings (yr 1)	\$301,001	\$408,276
Avg blended value of PV (\$/kWh)	\$0.169	\$0.169
Payback (yrs)	6.1	6.2
NPV (Net Present Value)	\$1,076,997	\$1,383,163
IRR (Internal Rate of Return)	12.2%	11.9%

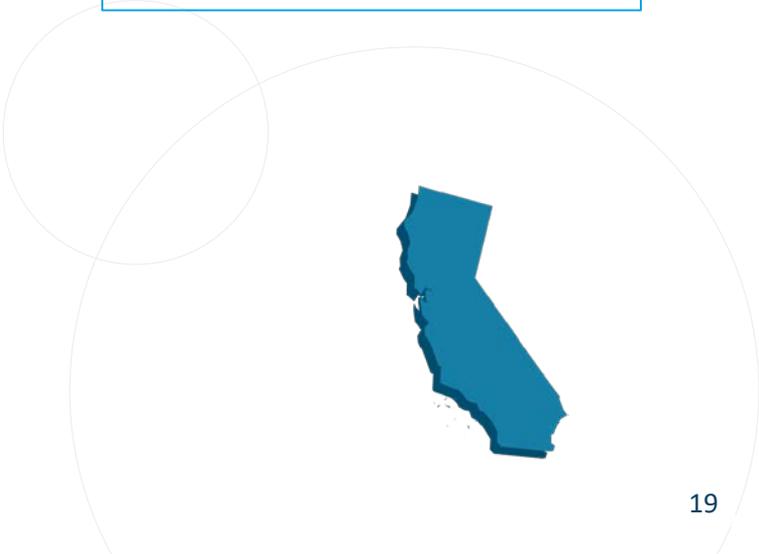
Case study inputs/outputs:

- Assumed \$1,100/kWh ESS installed cost for 500 kW / 1,000 kWh
- ESS bill savings yr 1 = \$107,275 (\$107/kWh ESS)
- ESS reduced PV exports 37%

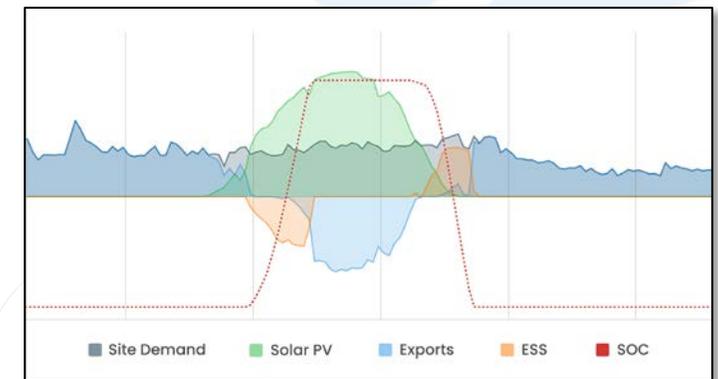
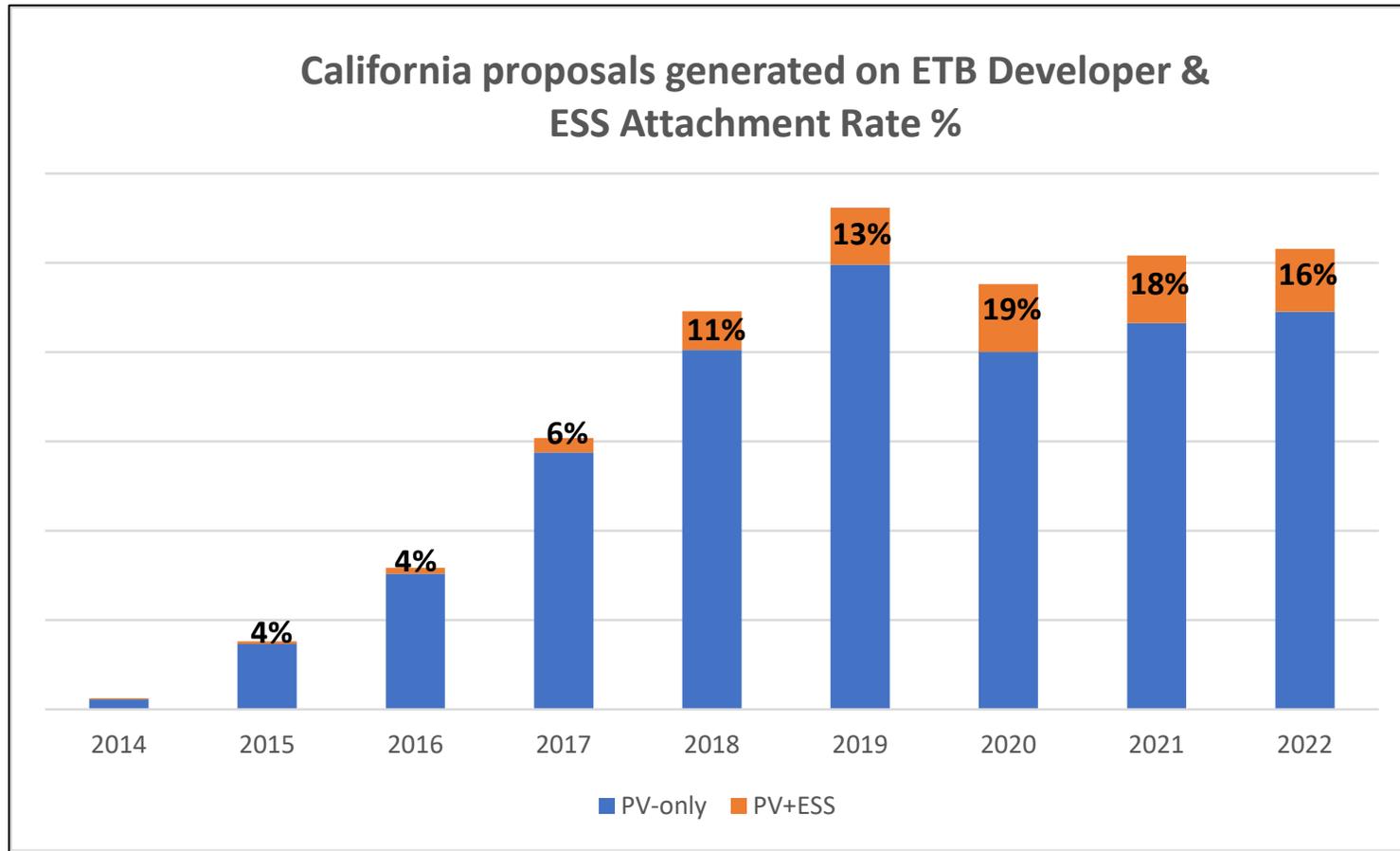
Our upcoming “Utility Rate Inflation – Whitepaper” shows Non-residential rates have an average CAGR between 4.8% and 7.4% over the last 10 years.

Utility	Rate Tariff	last 2 years Avg % change	2014 - 2023 CAGR (10 yr)
SDG&E	AL-TOU	23.5%	7.4%
SCE	GS-3-TOU (B/D)	14.0%	4.0%
PG&E	E-19/B-19	12.5%	4.8%

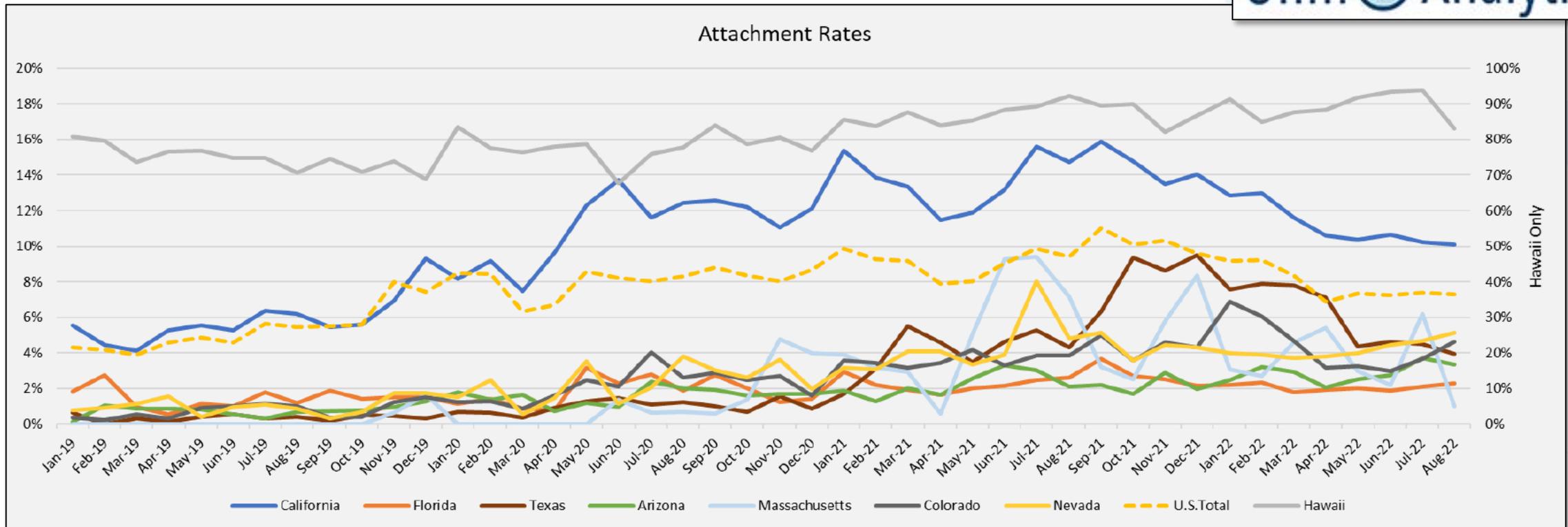
* Preliminary data from our upcoming Whitepaper



Energy storage attachment rates for California projects modeled in ETB Developer have grown since 2014 and leveled off over the last 3-years



Energy storage attachment rates vary widely from state to state depending on the NEM rules. California may ultimately follow Hawaii.



Source: OhmAnalytics August 2022 monthly report

Why Energy Toolbase?



Hardware Agnostic



Domain Expertise



Best-in-Class Support



End-to-End Platform



Bankable & Proven



Market Experience

Q & A



NEM-3 in California